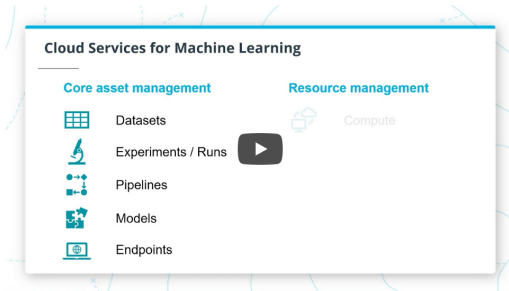## Cloud Services for Machine Learning

A typical cloud service for machine learning provides support for managing the core assets involved in machine learning projects. For your reference, you can see a table summarizing these main **assets** below. We'll explore all of these components in more detail as we go through the course.
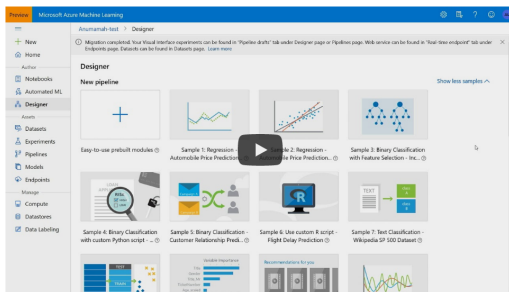
Feature	Description
Datasets	Define, version, and monitor datasets used in machine learning runs.
Experiments / Runs	Organize machine learning workloads and keep track of each task executed through the service.
Pipelines	Structured flows of tasks to model complex machine learning flows.
Models	Model registry with support for versioning and deployment to production.
Endpoints	Expose real-time endpoints for scoring as well as pipelines for advanced automation.

Machine learning cloud services also need to provide support for **managing** the resources required for running machine learning tasks:

Feature	Description
Compute	Manage compute resources used by machine learning tasks.
Environments	Templates for standardized environments used to create compute resources.
Datastores	Data sources connected to the service environment (e.g. blob stores, file shares, Data Lake stores, databases).

A Brief Intro to Azure Machine Learning

Below are some of the features of Azure Machine Learning that we just discussed. We'll get some hands-on experience using these features during the labs found throughout this course. For now, our goal is just to take a brief tour of the main features.

Following are some of the features in **Azure ML workspace**, a centralized place to work with all the artifacts you create:

Feature	Description
Automated ML	Automate intensive tasks that rapidly iterate over many combinations of algorithms, hyperparameters to find the best model based on the chosen metric.
Designer	A drag-and-drop tool that lets you create ML models without a single line of code.
Datasets	A place you can create datasets.
Experiments	A place that helps you organize your runs.
Models	A place to save all the models created in Azure ML or trained outside of Azure ML.
Endpoints	A place stores real-time endpoints for scoring and pipeline endpoints for advanced automation.
Compute	A designated compute resource where you run the training script or host the service deployment.
Datastores	An attached storage account in which you can store datasets.

QUIZ QUESTION

Below are some of the features we just went over. Can you match each one with its description?

Submit to check your answer choices!

DESCRIPTION	FEATURE
A drag-and-drop tool that lets you create machine learning models without writing any code.	The designer
A centralized place to work with all the artifacts you create.	The Azure ML workspace
A designated resource/environment where you run your training script or host your service deployment.	Compute target
Attached storage account in which you can keep data for your machine learning workspace.	Data store

SUBMIT

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